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Before the Board of Appeals

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For Appellants

Examiner's Answer

This is in response to appellant's brief on appeal filed 3/15/91.

(1) Status of claims.

The statement of the status of claims contained in the brief is correct.

The status of all claims is as follows:

This appeal involves claims 1-4, 10, 15, 17, 20-24, 30, 35 and 37.

Claims 5-9, 11-14, 18, 19, 25-29, 31-34, 36, 38 and 39 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

(2) Status of Amendments After Final.

No amendment after final has been filed.

The response to the final rejection was a request for reconsideration which was considered but was not persuasive in overcoming the rejection.

(3) Summary of invention.

The summary of invention contained in the brief is correct.

However, in less formal language, one aspect of the invention is an air-to-air passive ranging system wherein model data estimating the flight characteristics of the target plane are produced and compared with actual flight path data of the target plane. An error measurement between the model data and the actual flight path data is

calculated and adjustment is made to model data which minimizes the error measurement.

(4) Issues.

The appellant's statement of the issues in the brief is substantially correct. The changes are as follows:

Only claims 1-4, 10, 15, 17, 20-24, 30, 35 and 37 stand rejected as obvious over the cited prior art. All other claims are allowable dependent claims.

(5) Grouping of claims.

Appellant's brief includes a statement that all the claims at appeal stand or fall together. Although there are three 103 rejections presented and pages 10-12 of the brief lists each appealed claim separately, with the statement that the overlay combination provided is neither shown nor suggested in any of the cited prior art. In view of Appellant's statement, claim 1, the broadest independent claim, will be focused upon and all the appealed claims will stand or full together.

(6) Claims appealed.

The copy of the appealed claims contained in the Appendix to the brief is correct.

(7) Prior Art of record.

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

4,224,507	Gendreu	9/80
4,320,287	Rawicz	3/82
4,558,323	Golinsky	12/85
4,672,382	Fukuhara et al	6/87
2,995,296	Newell et al	8/61

(8) New prior art.

No new prior art has been applied in this examiner's answer.

(9) Grounds of rejection.

The following ground(s) of rejection are applicable to the appealed claims.

Claims 1-4, 15, 20-24 and 35 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Golinsky.

Claims 17 and 37 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Golinsky as applied to claims 1, 2 and 20 above, and further in view of Fukuhara et al..

Claims 10 and 30 are rejected under 35 U.S.C. 103 as being unpatentable over Gendreu or Rawicz in view of Newell et al and Golinsky.

All three rejections may be found in the final Office Action of 7/26/90, paper no. 11.

(10) New ground of rejection.

This Examiner's Answer does not contain any new ground of rejection.

(11) Response to argument.

The claims at appeal do not set forth an invention unobvious to one of ordinary skill in the art as evidenced by the teachings of the cited prior art as a whole. Individually both Gendreu and Rawicz suggest that the means for collecting actual flight data of the target may be of an active nature. Gendreu at col. 1, lines 14-20 "If, for example, radar is concerned"; Rawicz at col. 2, lines 55-58

"Most typically, the sensor may simply comprise a radar installation". However, the examiner disagrees with Appellant's assertion that Gendreu and Rawicz cannot work using actual flight path data which has been passively collected; that these references specifically require active input to operate; or that the required information is only attainable from an active sensor. Neither Gendreu nor Rawicz impose those constraints in their disclosure or their claimed subject matter. What Gendreu and Rawicz do require is collecting target positional data. The Golinsky reference teaches a particular method of passive measurement of the range, velocity and course of a target aircraft relative to a test aircraft. Golinsky acknowledges the difference between active and passive modes and teaches an advantage of the passive mode, col. 1, lines 13-37. The level of ordinary skill in the art may be characterized as high. As a reference level a masters degree in electrical engineering with approximately 5 years of experience in radar systems engineering is suggested. All three references discussed here are concerned with tracking of a target. Both Gendreu and Rawicz are more specifically concerned with minimizing possible errors in the determination of the target positional data, Gendreu at col. 1, lines 8-52 and Rawicz at col. 1, lines 29-46. Golinsky is directed at a passive mode of target tracking. It would have been obvious to one of ordinary skill in the art at the time the invention was made that actual target flight data required in Gendreu (see col. 7, lines 7-35) and Rawicz are available with the passive tracking system taught in Golinsky. The requirement of Gendreu or Rawicz for target position data does not render the systems therein inoperative simply because the target position data is derived passively. Further, given the level of ordinary skill in the art the suggested modification would not render the Gendreu and Rawicz systems inapplicable, see for example Gendreu at col. 21, lines 10-17.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Gendreu and/or Rawicz from active to passive as Golinsky teaches that passive systems are advantages when detection by the target of the tracking operation is undesirable. As indicated by Appellant, this advantage of passive systems is a known and desirable benefit of passive ranging. However, it is also a motivational reason for combining the cited prior art as it is the most obvious of solutions when confronted with the problem of avoiding detection while performing a tracking operation. This is a primary reason why Appellant's invention is of a passive nature. This is not hindsight, but a direct application of what is known in the prior art as a whole.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Barron/05-31-91

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ART UNIT 222